

Paper No. I-2 Question/Comment \_\_\_\_\_

By: Ben Franklin, AAF International

- a) Since the decommissioning took place earlier (approximately 3 months) than Talget, was the cost less?
- b) What was the budget

### Author's Response

- a) The contractor got a bonus for finishing early.
- b) I do not know the budget.

Paper No. I-2 Question/Comment \_\_\_\_\_

By: Bob Hall - JACADS

You mentioned that there were a lot of Lessons Learned in this. Can we get a copy of the Lessons Learned?

### Author's Response

We are in the final stages of getting that out. We had a number of those that determined how we would proceed. There was less potential for people to become contaminated. I believe, yes, we will be publishing that.

Paper No. I-2 Question/Comment \_\_\_\_\_

By: Lyle L. Dauber, U.S. Army

Did you have a pre-approved protocol as to what level of protection gear the people would wear in the different disciplines?

### Author's Response

No, all had the same level. They were all required to use the same suit. It was equipped for respirator and air bottle inside in f the lines int he suit itself failed and they have developed over the years for more internal safety. The DOE has a program for air suit at Los Alamos. There has been a lot of modification.

Paper No. I-2 Question/Comment \_\_\_\_\_

By: Leo Derderian

How did you provide for fire systems in this scenario?

### Author's Response

In most cases, we took them out of service and we provided fire watch and started stripping out the fire systems as well.

Paper No. I-2 Question/Comment

By: Gordon Miller, Livermore

What was the pressure you maintained? O5?

### Author's Response

It was a little less than that.

Paper No. I-2 Question/Comment \_\_\_\_\_

By: Bill Davis

- 1) Can you give us some idea on the airborne leaks during the contamination?
- 2) What did you find with regard to the contamination in the ducting? Was it loose in the ducting?

### Author's Response

- 1) No, I will have to get that information for you. As far as airborne, I am not aware of any problems at all.
- 2) In this particular area, most of it was loose and it was able to be moved out of the duct. In the areas where we had to scrape, etc., it was done with glove bags. We had a lot of research systems in this as well that gave the material the ability to be removed. So this was an easy one.

Paper No. I-2 Question/Comment \_\_\_\_\_

By: Brenda Pangborn

The 254 filters, that was a batch failure. Was there ever an engineering study done as to the impact?

### Author's Response

Yes. It was the opinion of the engineers that there was a defect and they were not fully bedded in place.

Paper No. I-4 Question/Comment \_\_\_\_\_

By: Cindy Grant

Source of the low and high level waste (isotopic or concentrator based)

Author's Response

Paper No. I-4 Question/Comment

By: Pete Dorosko, Brunswick Nuclear Plant

Reference Table 1 - Equipment vs. Contaminant matrix

Decontamination Factor -  
Ratings E, G, F, P - i.e., P (Poor)

What approximate range of DF was the basis for the rating?

## Author's Response

Submerged Bed Scrubbers (SBS) - 80% effective.

Paper No. I-4 Question/Comment \_\_\_\_\_

By: Dennis Adams - Com Ed

What is the purpose of the pump system to the stock exhaust?

## Author's Response

Typical design for scrubbing

Paper No. I-4 Question/Comment \_\_\_\_\_

By: Dennis Adams - Com Ed

Were the HEPA filters discharged -- to stack on the LAW?

### Author's Response

It goes to the stack, typically.

Paper No. I-7 Question/Comment \_\_\_\_\_

By: Ben Franklin, AAF International

How did you justify reducing the criteria 5-30 Air Changes per hour down to 1.25 AC/Hr?

### Author's Response

The 5-30 AC/hr was arbitrary based on no calcs. When we calculated it, 1.25 was the result.

Paper No. I-7 Question/Comment \_\_\_\_\_

By: Joe Paul - Westinghouse Savannah River Company

Are you able to maintain the same differential pressures between containment zones with approximately 1/5 of the airflow that had been used in prior designs? (I.e., low flow of 1.25 AC/hr versus about (5 AC/hr to 30 AC/hr) in prior applications? Are there any additional capital costs for constructing the facility using low flow ventilation systems?

### Author's Response

Yes, because we configure the facilities that use the low flow (1.25 AC/hr) with fewer air flow paths between the containment zones. This configuration does not result in any additional capital costs over configuring the facility utilizing much higher air flow rates.

Paper No. II-1 Question/Comment \_\_\_\_\_

By: Linda Fergestrom

Are those in the NESHAP and are they operational based?

### Author's Response

They are operational based with 40CFR 61.

Paper No. II-3 Question/Comment \_\_\_\_\_

By: Bill Davis

Tell me about the flow splitter.

## Author's Response

The whole purpose is to provide a decreased stream to two parts or 3 parts, split. It's a wonderful tool but it does have to have a reliability check.

Paper No. II-4 Question/Comment \_\_\_\_\_

By: Brenda Pangborn

In your presentation, you made the statement, based on 75-80% of sites discharging  $<0.01$  mrem/year, that 75-80% of sites do not need to monitor for airborne radioactivity continuously. I thought EPA regulations on continuous monitoring was based on unmitigated potential to emit, not actual releases..

## Author's Response

Gustavo Vasquez agreed that NESHAPS regulation for continuous monitoring were based on potential to emit.

Paper No. II-1 Question/Comment

By: Lyle L. Dauber, U. S. Army

You spoke of the potential to remit. How do you arrive at that.

## Author's Response

It is defined in the 40 CFR 61 and the Washington law. It is extensive and it has rules. It is quantitative and it is policed.

## II-6 ROUND TABLE

**Brent:** Only Roger knows where we are going. I have looked at somewhere close to 100 sources at Savannah River site and compared them to the 1999 standard and they can all be fixed; some very expensively, but they can be fixed in the 1999 standard. The 1999 standard is much cheaper than the 1969 standard. It is definitely cheaper to operate on an existing stack. It can be done. But don't keep clean any more than you have to. This is my take on it from an operational standard board.

**Bill Davis:** Any time we put in a new standard, there is going to be a lot of friction, so I just ask for tolerance on everybody's part until we get the standard through. One of the things we are looking for is how well are your sampling sources working. It is not only how you actually apply as standard.

**Andy:** With respect to the comment made by Robin on maintenance, we feel that maintenance is a part of anything like this.

**John:** This last week myself and Dan Edwards of Battelle spent some long hours out in the field testing the sampling location for a new stack or a new facility. Fortunately, the designers of that stack may be, accidentally or on purpose, doing a good job in designing how they went together. Qualification tests went off without a hitch. The only point I would like to make is --- a new facility in the design stages, what that emission point is going to look like before you start construction. Had they not passed or met the criteria, that would have been a real serious problem to try and remedy that situation. Fortunately, in this instance, it turned out great.

**Andy:** You can do the model in the laboratory and not in the field.

**Gus:** Comment on how many of the stacks in the Hanford Site there are sampling in accordance with 1999.

4 or 5. Our job is also in the scrap metal so we are running around trying to draft directives. I think we are doing a real good job in complying with that standard. I think the kind of doses we are talking about are very small and I think more and more, the sites, the field offices, are getting more involved in asking the kind of questions that Rex is asking. On the one hand, there is a lot of change and on the other hand, it is good to work with good professionals.

**Andy:** With respect to the newest variation of ANSI 1999, it really is a regulatory change compared to the 1969 standard. The 1969 standard made a model of what a sampling system should look like and for 30 years people followed that particular

model. New managers as they come along with respect to the area where work needs to be done, I believe the ANSI standard needs to be reviewed.

Question:

Bruce (?) of Oak Ridge:

Some of the modeling that we have been doing recently we have been comparing with some of the results with the main frame. Now we are using it as a screening tool. The main frame, CAP 88. Are you going to include a better definition.

Robin: This is new information to me so I need you to write this up and send it to me. This is good information.

One of the things we are looking at is using CAMS. The purpose of amending Subpart H is to understand the new ANSI standard. Apparently there are issues we need to address.

**Rex Border, DOE, Albuquerque:**

1) We are blurring the lines of what is a DOE facility anymore. They are still reporting under Subpart "H". Is there a mechanism for a facility to request an exemption under Subpart "H"?

Robin: No. We are looking into that. It is relatively new at DOE. They are privatizing some of their facilities and their employees would not be considered DOE facility and might be considered members of the public.

**Rex Border:** 2) That is my question.

3) If you had quantities below a certain level, you don't have to do that.

Robin: That is the 1994 rule. These new issues are being brought to our attention. Don't assume that if your emissions are very low you don't have to report anymore.

Gus: The situation is going to be about October 1, you are going to turn the thing over to this commission — the ownership and then the Department is going to lease it back so the Department is still involved, so we would still have to do the subpart "H".

Question:

**Ron Scripsick:** In the early years, and even now, I was concerned that people would come up with a maximum dose above 5. What attention is being paid to the uncertainty in our estimates, and in saying whether that included the standard and any kind of conclusion for confidence limits on that. And also, the data, what is the uncertainty in the dose estimates?

Robin: I think that is a general modeling question, whether it be for CAP 88 there is always some uncertainties that you use and that is why at EPA we always have an

estimate for our model.

Paper No. II-7 Question/Comment

By: Peter Dorosko - Brunswick Nuclear Plant

Was cooling increased, i.e., chiller/AC unit capacity increases to make up for lower air flows?

### Author's Response

No. Used extended surfaces to remove heat. Recirculated warmer to cooler areas and conduction/convection from cooler area to boundary walks.

Paper No. III-2 Question/Comment \_\_\_\_\_

By: Leo Derderian

The number of 11,000 filters/year is no longer current. DOE tests approximately 2400 - 2500 filters/year

## Author's Response

This number was taken from the Bergman Report in 1993.

Paper No. III-2 Question/Comment \_\_\_\_\_

By: J. L. Kovach, NUCON

- 1) What is the radioactive load on HEPA filters in tank vent systems? To my knowledge HEPA changed is caused typically by inadequately devised and built air pretreatment systems ahead of the HEPA filter.
- 2) A conventional HEPA media build-up to generate the same delta P on the structural media as ceramic media would also be much stronger than the single ply HEPA media.

## Author's Response

I don't have that data. Our filters don't get real hot. However where there is a lot of activity, they can get real hot.

The only problem with water is when you have a lot of build-up on the filter.

Paper No. III-2 Question/Comment \_\_\_\_\_

By: Ronald C. Scripsick, Los Alamos National Laboratory

- 1) Did the differential pressure of the cleaned filters return to horizontal level after each cleaning?
- 2) How many cleanings did you evaluate?

### Author's Response

- 1) The delta P varies. It went up to about 350". As flow decreased, my DP increased. As you see, the flow returned to a clean filter status.
- 2) Last year we saw it every time we cleaned a filter.

Paper No. III-2 Question/Comment

By: Gustavo Vazquez, DOE-HQ

Have auditors estimated change in radionuclide emissions — using this cleanable filter approach?

### Author's Response

Not yet. But it is one of the considerations to be looked at.

Paper No. III-3 Question/Comment \_\_\_\_\_

By: Leo Derderian

How long did the sprays stay on? Are common climister plenums well sealed referring to Mr. Kovach's paper on the state of DOE's filter frame systems written in the Harvard course back in 1995?

### Author's Response

The sprays stayed on for 30 seconds and it would not be wise to continue the sprays for long periods; because of the potential of building up of bypass leakage at floor levels and possible buildup in some plenums which may not have drain systems.

Paper No. III-5 Question/Comment \_\_\_\_\_

By: Kovach, NUCON

How much damaging do you get from only taping the shock measuring device to the absorber?

### Author's Response

Really very little. They were taken metal to metal and fastened so they won't come loose.  
Nothing between the metal.

Paper No. III-4 Question/Comment \_\_\_\_\_

By: Kovach, NUCON

Two comments:

- 1) Many of these factors were evaluated in the 1920 and 30 in regard to gas work and bed design. It is important to review old information also.
- 2) It is important to outsiders the information presented, particularly the difference between the V-beds and 2.0" deep beds became of usual attempts in AG-1 code development relating to this bed Type IV .

## Author's Response

Yes, our design engineers do have to get back into the old literature.

Paper No. III-5 Question/Comment

By: Bob Hall

What is a lute?

### Author's Response

The nomenclature of the NRC is going back to old English, not American English

Paper No. III-5 Question/Comment \_\_\_\_\_

By: Bob Hall

Have you done any similar work for companies like Airbonre and other air transport companies?

### Author's Response

No, I wish we had. We have not done work for air transports

Paper No. III-5 Question/Comment \_\_\_\_\_

By: Lee Hyder

Have you tested any filters to be shipped to Johnston Island?

Author's Response

No.

Paper No. III-5 Question/Comment \_\_\_\_\_

By: Gordon Miller, LLNL

Were measurements made in 3 axes?

### Author's Response

Yes. The devices will trigger if shocked in 2, but not 3, axes. The devices were placed in two axes in pairs so the third axis was also covered.

Paper No. IV-1 Question/Comment \_\_\_\_\_

By: Peter G. Dorosko, Brunswick Nuclear Plant

When do you expect the International Atomic Energy Agency and its Gaseous Waste Management Handbook to be available?

### Author's Response

While there is a great deal of editing and review of the draft in progress, the projected publication date is still in 2001.

Paper No. IV-2 Question/Comment

By: Bob Hall, JACDS

R11 still okay for carbon challenges?

### Author's Response

Yes. The devices will trigger if shocked in 2, but not 3, axes. The devices were placed in two axes in pairs so the third axis was also covered.

Paper No. IV-2 Question/Comment \_\_\_\_\_

By: Dennis Adams, Com ED

- 1) What vehicle will be used to achieve integration of those subjects not currently slated for incorporation into RG 1.52 Rev. 3?
- 2) What was meant by the NRC's concern with 40 fpm and GL 99-002?
- 3) What about standards revisions used in RG 1.52. With these standards and their revisions be addressed?

### Author's Response

- 1) NHNG and NEI and selected identity experts.
- 2) Calc should exist that support in-place testing of the charcoal with film through the carbon @accident conditions.
- 3) No plans are currently in place to reflect the most current revisions to referenced standards.

Paper No. IV-3 Question/Comment

By: Dennis Adams, Com ED

So what do you contribute the lack of response to perform baseline testing by the industry?

### Author's Response

Testing is money and with lack of commitment comes lack of performing tests. Even with NEI 99-03, there is no commitment without a GL by the NRC..

Paper No. V-2 Question/Comment \_\_\_\_\_

By: Lyle L. Dauber

How did you factor in the air exchange due to personnel moving through the door -- the drag effect?

## Author's Response

From British literature, estimates of 3 to 10 cfm are given.

COMMENT: Intuitively, the 3 to 10 cfm range seems low. I don't have data to support this intuition.

Paper No. IV-3 Question/Comment \_\_\_\_\_

By: Dennis Adams, Com ED

The original inception of the NEI T F was to investigate the requirement for a GL by the NRC. Even though the possibility of a toxic gas event is greater than a LOCA, why are not stations testing for toxic gas in leakage?

### Author's Response

Not sure. The emphasis has been on radiological ice due to safety significance.

Paper No. V-2 Question/Comment \_\_\_\_\_

By: Kovach, NUCON

Did you have to adjust the values indicated at various makeup flows and the “other” leakage at locations other than the doors?

### Author's Response

If you have real leakage, then those numbers are back calculated, going through the door. You are assuming that everything that goes in, goes out through the door.

COMMENT: Intuitively, the 3 to 10 cfm range seems low. I don't have data to support this intuition.

Paper No. V-3 Question/Comment \_\_\_\_\_

By: Ron Sripsick

What were the consequences of the airborne releases and worker exposures?

Author's Response

Paper No. V-4 Question/Comment \_\_\_\_\_

By: Ron Sripsick

Can you address air emission from the exhaust systems you described? Were these emissions correlated with the Ports ambient air monitoring system results?

Author's Response

Paper No. V-5 Question/Comment \_\_\_\_\_

By: Ron Scripsick

Did you observe lower exposure levels before you recommended to not use respirators?

Author's Response